bonization and gasification other than those now used in gas works?

4. Can electric power be obtained more cheaply if the coal used for steam raising is first subjected to processes of carbonization and gasification?

5. Will the more scientific development of the preparation and use of fuel, which would be implied in the successful working out of the foregoing questions, enable the peat deposits of the United Kingdom to take a serious place as economic sources of fuel for industrial purposes?

6. Can the use of gaseous fuel in industrial operations be forwarded by the development of more scientific methods of combustion in the furnaces, muffles and ovens used in metallurgical, ceramic and chemical operations?

Answers to these questions, the report points out, will be obtained only by coordinated research carried on the lines of a broad and well-considered scheme, but at the same time the Fuel Research Board think it is to be expected that solutions of some of the problems will be supplied by workers in the industries, and they would regard it as a great misfortune were the establishment of a government organization for fuel research to result in discouraging or in any way limiting the activities of outside workers or organizations.

It was realized that the conditions required for the research station could be fulfilled only by a site in the neighborhood of a large gas works. Some months ago the director of Fuel Research approached Dr. Charles Carpenter, the chairman of the South Metropolitan Gas Company, and subsequently Dr. Carpenter on behalf of the directors of his company, made the following very generous offer:

1. To lease the government at a peppercorn rent sufficient land at the East Greenwich gasworks for the erection of the research station.

2. To prepare drawings and specifications for the station on lines laid down by the board and to make contracts for its erection; and

3. To give every facility for the transport of coal and other supplies to the station and to take over at market prices the surplus products, gas, tar, liquor and coke, resulting from the operations of the station.

The site consists of a strip of level ground, about 250 feet wide by 700 feet to 800 feet long, situated on the main siding which connects the gas works with the South-Eastern Railways and possessing access to an existing road. The station, as planned, will be capable of any extensions required for future researches. Of the four acres to be leased, only one acre will be occupied by buildings under the present scheme. Further, a large part of the equipment of the buildings will be of a permanent character and will serve all the general purposes of a research station. Future extensions, therefore, will not repeat this permanent equipment, but will be based upon it.

THE COLUMBIAN INSTITUTE

THE great scientific bureaus of the government at Washington with their thousands of employees dealing with the country's problems in every branch of science, and the important learned societies and scientific establishments of the national capital, were influenced in their early growth and development in a greater or less degree by a scientific society which flourished in Washington during the early years of the last century. The Columbian Institute for the Promotion of Arts and Sciences, now all but forgotten, was the first learned society established in Washington, its organization dating from June, 1816, sixteen years after the occupation of the city as the federal capital, and less than two years after the invasion by the British troops. The population of Washington was at that time little more than 10,000, and the repair and reconstruction of the public buildings was still in the initial stage. The history, organization and achievements of this society are fully described in an interesting Bulletin of the United States National Museum by Mr. Richard Rathbun, assistant secretary of the Smithsonian Institution, in charge of the National Museum.

The objects of the Columbian Institute, which was chartered by Congress in 1818 for a term of twenty years, were as a whole very diversified, those specifically named in the beginning having been almost wholly of a utilitarian nature, such as the government has from time to time assumed and made the basis of the work of several scientific bureaus.

Four years later, however, an organization was adopted which gave to the Institute the latitude of a comprehensive learned society. Among all the activities planned only a few were in any way conspicuously carried out, in default of the necessary support, the most important and material of these being the establishment of a botanic garden and a museum. The former occupied the extreme eastern end of the Mall which then approached much nearer the capitol than at present, and included the site of the present United States Botanic Garden.

Starting with a cabinet of minerals which remained predominant in this connection, this feature soon developed into a general though small museum, containing specimens of zoology, botany, ethnology, archeology, fossils, etc. Transferred to the National Institution in 1841, some of the objects are now readily distinguishable in the United States National Museum, forming, it may be claimed, the nucleus of its collections.

The institute obtained its meeting places and accommodations for its museum mainly through the favor successively of the executive departments, the municipal government, and Congress. It was first located in Blodget's Hotel, containing the general post office and the patent office, followed by the treasury department and city hall, being finally assigned a permanent home, in 1824, in the western addition to the capitol building, which had just been completed. The use of the site for its botanic garden was also a grant from Congress.

However unfortunate in the realization of its ambitions, the Columbian Institute nevertheless occupied an enviable position among the earlier associations of this country for the breadth and importance of its object, even if they be regarded only in the nature of suggestions, which have since been so fully recognized in the organization of the government and elsewhere, and for its hearty and unselfish efforts to carry them out. The Columbian Institute owed its establishment and early successes to a masterful mind, that of Dr. Edward Cutbush, then a surgeon in the Navy, and the first president of the society, though acknowledgments are also due to Thomas Law for the suggestion of such a society at the seat of government.

The membership of this institute included a great many of the prominent men of every walk of life in Washington, among them John Quincy Adams, Andrew Jackson, John C. Calhoun, Henry Clay, and well-known representatives of the Army, the government service, the medical and other professions.

AWARD OF THE JOHN SCOTT LEGACY MEDALS AND PREMIUMS AND OF THE EDWARD LONGSTRETH MEDAL OF MERIT

THE city of Philadelphia, acting on the recommendation of The Franklin Institute, has awarded the John Scott Legacy Medal and Premium to Alfred Rishworth Tattersall, of London, England, for the "Midget" Marvel Flour Mill.

This device is a small and simple form of flour mill, designed to enable local millers to make a good grade of flour at a comparatively low cost. It is of especial value in farming communities in which the flour mills run by water power have been abandoned.

And has also awarded the John Scott Legacy Medal and Premium to Max Ulrich Schoop, of Zurich, Switzerland, for the Schoop Metal Spraying Process.

In this process, wire of some easily fusible metal, like zinc, is fed into a device called a spraying pistol. The wire passes through a tube and at its end comes into contact with burning gas, by which it is melted, and the molten metal is sprayed by an air blast upon the surface to be covered. The use of this process has been found to greatly increase the life of patterns for castings.

The John Scott Legacy Medal and Premium has also been awarded to Thomas A. McCall, of South Akron, Ohio, for his inventions embodied in the early development of the Hooven Automatic Typewriter, and to John H. Pillings, of Hamilton, Ohio, for his inventions and improvements embodied in its later development.

The Franklin Institute has awarded its Edward Longstreth Medal of Merit to The